1. Product and Company Identification

Product Name: Pro Ban-T
CAS #: Mixture
Product use: Water Softener Resin Cleaner / pH adjuster
Manufacturer: Pro Products LLC
7201 Engle Road
Fort Wayne, IN 46804-5875 US
Phone 260-483-2519
Emergency Phone: 1-800-424-9300 (CHEMTREC)

Personal Protection

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical Hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>B</td>
</tr>
</tbody>
</table>

2. Hazards Identification

Emergency overview
CAUTION
CAUSES EYE BURNS. CAUSES SKIN BURNS.

Potential short term health effects
Routes of exposure
- Eye, Skin contact, Inhalation, Ingestion.
- Causes chemical burns. May cause blindness.
- Causes chemical burns.
- Dust extremely irritating to respiratory tract.
- Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

Target organs

Chronic effects
Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

OSHA Regulatory Status
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects
See section 12.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>60 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures

Eye contact
Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact
Brush away excess of dry material. Immediately flush with cool water for 15 minutes. Obtain medical attention if irritation persists. Wash contaminated clothing well before reuse or discard.

Inhalation
If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion
Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties

Not flammable by WHMIS/OSHA criteria.

Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media
Not available

Protection of firefighters

Specific hazards arising from the chemical
Not available

Protective equipment for firefighters
Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products
May include and are not limited to: Oxides of carbon.

Explosion data

Sensitivity to mechanical impact
Not available

Sensitivity to static discharge
Under certain conditions, airborne dust of citric acid can explode when ignited by an electrostatic spark, other high-voltage sparks or other ignition source.

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Environmental precautions
Prevent entry into waterways, sewers, basements or confined areas.

Methods for containment
Use water spray to reduce vapors or divert vapor cloud drift.

Methods for cleaning up
Before attempting clean up, refer to hazard data given above. Use broom or dry vacuum to collect material for proper disposal without raising dust. Rinse area with water. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Large Spills: Wet down with water and dike for later disposal. After removal flush contaminated area thoroughly with water.

7. Handling and Storage

Handling
Use good industrial hygiene practices in handling this material. Do not get in eyes, on skin or on clothing. Avoid breathing dust.

Storage
Keep out of the reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits

<table>
<thead>
<tr>
<th>Ingredient(s)</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>ACGIH-TLV</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m3</td>
</tr>
<tr>
<td></td>
<td>OSHA-PEL</td>
</tr>
<tr>
<td></td>
<td>TWA: 10 mg/m3</td>
</tr>
</tbody>
</table>

Engineering controls

Use only under good ventilation conditions or with respiratory protection.

Personal protective equipment

Eye / face protection
Wear chemical goggles.

Hand protection
Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection
As required by employer code. Rubber apron recommended.

Respiratory protection
Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
### 9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Crystals</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Clear to white</td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>None to slight</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Physical state</strong></td>
<td>Solid</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>1.7 (10% solution)</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Freezing point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Boiling point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Pour point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Flammability limits in air, lower, % by volume</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Flammability limits in air, upper, % by volume</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Specific gravity</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Octanol/water coefficient</strong></td>
<td>Not available</td>
</tr>
<tr>
<td><strong>Solubility (H2O)</strong></td>
<td>Complete</td>
</tr>
<tr>
<td><strong>Percent volatile</strong></td>
<td>Not available</td>
</tr>
</tbody>
</table>

### 10. Stability and Reactivity

- **Reactivity**: Reacts vigorously with alkaline material. This product may react with reducing agents.
- **Possibility of hazardous reactions**: Hazardous polymerization does not occur.
- **Chemical stability**: Stable under recommended storage conditions.
- **Conditions to avoid**: Do not mix with other chemicals.
- **Incompatible materials**: Bases. Oxidizers. Reducing agents. Metal nitrates
- **Hazardous decomposition products**: May include and are not limited to: Oxides of carbon.

### 11. Toxicological Information

- **Component analysis - LC50**
  - **Citric acid**: Not available
- **Component analysis - Oral LD50**
  - **Citric acid**: 5040 mg/kg mouse; 3000 mg/kg rat

**Effects of acute exposure**

- **Eye**: Causes chemical burns. May cause blindness.
- **Skin**: Causes chemical burns.
- **Inhalation**: Dust extremely irritating to respiratory tract.
- **Ingestion**: Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

**Sensitization**: Non-hazardous by WHMIS/OSHA criteria.

**Chronic effects**: Non-hazardous by WHMIS/OSHA criteria.

**Carcinogenicity**: Not classified or listed by IARC, NTP, OSHA and ACGIH.
Mutagenicity: Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects: Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity: Non-hazardous by WHMIS/OSHA criteria.
Name of Toxicologically Synergistic Products: Not available

12. Ecological Information

Ecotoxicity

Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.

Ecotoxicity - Freshwater Fish - Acute Toxicity Data
Citric acid 77-92-9 96 Hr LC50 Lepomis macrochirus: 1516 mg/L [static]

Ecotoxicity - Water Flea - Acute Toxicity Data
Citric acid 77-92-9 72 Hr EC50 Daphnia magna: 120 mg/L

Persistence / degradability: Not available
Bioaccumulation / accumulation: Not available
Mobility in environmental media: Not available
Environmental effects: Not available
Aquatic toxicity: Not available
Partition coefficient: Not available
Chemical fate information: Not available
Other adverse effects: Not available

13. Disposal Considerations

Disposal instructions: Review federal, state/provincial, and local government requirements prior to disposal.
Waste from residues / unused products: Not available
Contaminated packaging: Not available

14. Transport Information

U.S. Department of Transportation (DOT)
Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)
Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List
Citric acid 77-92-9 1 %

WHMIS status: Controlled
WHMIS classification: Class E - Corrosive Material
WHMIS labeling

Occupational Safety and Health Administration (OSHA)
29 CFR 1910.1200 hazardous chemical
Yes

US Federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CERCLA (Superfund) reportable quantity
None
Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate Hazard - Yes
- Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

Section 302 extremely hazardous substance
- No

Section 311 hazardous chemical
- Yes

Clean Air Act (CAA)
- Not available

Clean Water Act (CWA)
- Not available

State regulations
- This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Inventory name

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

16. Other Information

Disclaimer
The data contained in this material safety data sheet was obtained from sources that were technically accurate, reliable, and state of the art when this document was prepared. If data was unavailable to complete certain sections, the absence of that data is identified in this document. Because the supplier cannot know the exact circumstances during actual use of this product, other hazards, exposure scenarios, disposal considerations, and regulations may apply and it is the responsibility of the user to read and understand the product label and this document before use. Do not use the product for purposes other than those stated in Section 1.

Issue date
- 19-Oct-2011

Effective date
- 15-Nov-2011

Expiry date
- 15-Nov-2014

Prepared by
- Dell Tech Laboratories Ltd. (519) 858-5021

Other information
For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.